UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/784,568	02/23/2004	Srinivasan Ramasubramanian	08411-037001	8638

26191 7590 09/25/2007

FISH & RICHARDSON P.C.
PO BOX 1022
MINNEAPOLIS, MN 55440-1022

EXAMINER	
PHAN, TUANKHANH D	
ART UNIT	**PAPER NUMBER**
2153	

MAIL DATE	DELIVERY MODE
09/25/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

MN

Office Action Summary	Application No.	Applicant(s)	
	10/784,568	RAMASUBRAMANIAN ET AL.	
	Examiner	Art Unit	
	TuanKhanh Phan	2153	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 May 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02/23/2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *May 06, 2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-9 and 11-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamamoto et al. (US Pub. 20030043855), hereinafter referred to as Yamamoto.

Regarding claims 1 and 27-29,Yamamoto teaches a computer-implemented method for processing data on a node having a node identifier, the method comprising:

receiving a first data packet on the node from a first direction (¶ 0033 lines 1-5);

checking a destination identifier of the first data packet (¶ 0041, 0042 lines 1-4);

if the destination identifier of the first data packet does not match the node identifier, storing the first data packet in a first transit buffer for later transmission by the node to another node in the first direction (¶ 0045, 0046 lines 1-5; ¶ 0050, lines 1-7; Figure 22 **teaches downstream direction as the first direction**); and if the destination identifier of the first data packet matches the node identifier, processing the first data packet on the node to create a first processed data packet (¶ 0044 lines 1-5; ¶ 0054 lines 1-7) and

storing the first processed data packet in a first local buffer for later transmission by the node to another node in the first direction (¶ 0044 lines 1-5; ¶ 0052; ¶ 0054 lines 1-7; ¶ 0055, lines 1-9).

Regarding claim 2, Yamamoto teaches the computer-implemented method of claim 1, wherein the method further comprises: checking a transmission round of the first data packet; and if the transmission round of the first data packet does not match a transmission round of a previous data packet received on the node from the first direction, changing a first transit buffer round that is associated with the first transit buffer (¶ 0083 lines 12-22; ¶ 0084 lines 3-19 **teaches checking the appropriate packets with the correspondent nodes**).

Regarding claim 3, Yamamoto teaches the computer-implemented method of claim 2, wherein checking a transmission round of the first data packet includes checking a round bit in the first data packet (¶ 0066; ¶ 0068 lines 1-6).

Regarding claim 4, Yamamoto teaches the computer-implemented method of claim 2, wherein changing a first transit buffer round that is associated with the first transit buffer includes changing a first transit buffer round that is associated with the first transit buffer if one or more data packets are already stored in the first transit buffer (¶ 0083 lines 12-22; ¶ 0084).

Regarding claim 5, Yamamoto teaches the computer-implemented method of claim 1, wherein the method comprises processing data on a node in a ring network (Figure 6; ¶ 0062, lines 8-13).

Regarding claim 6, Yamamoto teaches the computer-implemented method of claim 1, wherein the method further comprises implementing congestion control when the first transit buffer is full (¶ 0005, lines 3-9 **teaches a control to adapt with a buffer available status**).

Regarding claim 7, Yamamoto teaches the computer-implemented method of claim 1, wherein the method further comprises: receiving a second data packet on the node from a second direction (¶ 0033 lines 1-5); checking a destination identifier of the second data packet (¶ 0041, 0042 lines 1-4);

if the destination identifier of the second data packet does not match the node identifier, storing the second data packet in a second transit buffer for later transmission by the node to another node in the second direction (¶ 0096; Figure 22 **teaches an upstream transmission as a second direction operates by using the control of destination address**); and

if the destination identifier of the second data packet matches the node identifier,

processing the second data packet on the node to create a second processed data packet (¶ 0083 lines 12-22; ¶ 0084 lines 3-19); and

storing the second processed data packet in a second local buffer for later transmission by the node to another node in the second direction (¶ 0044 lines 1-5; ¶0052; ¶ 0054 lines 1-7; ¶ 0055, lines 1-9).

Regarding claim 8, Yamamoto teaches the computer-implemented method of claim 7, wherein the second direction is opposite to the first direction (¶ 0050, lines 1-7; ¶ 0096; Figure **22 teaches upstream and downstream as opposite direction**).

Regarding claim 9, Yamamoto teaches the computer-implemented method of claim 7, wherein the first data packet and the second data packet have a common size (¶ 0137, last 4 lines; ¶ 0139, lines 3-14 **teaches packets are set to be same packet lengths**).

Regarding claim 11, Yamamoto teaches a computer-implemented method for processing data on a node, the method comprising:

determining if a first transit buffer on the node is empty, the first transit buffer capable of holding one or more data packets destined for another node (¶ 0048, lines 1-5); if the first transit buffer is empty, transmitting in a first direction a data packet stored in a first local buffer, the first local buffer capable of holding one or more data packets originating from the node (¶ 0048, lines 1-5);

if the first transit buffer is not empty, transmitting in the first direction one or more data packets stored in the first transit buffer if a first transmission condition is satisfied (¶ 0048, lines 1-5); and

transmitting in the first direction a data packet stored in the first local buffer if the first transmission condition is not satisfied (¶ 0055, lines 1-6).

Regarding claim 12, Yamamoto teaches the computer-implemented method of claim 11, wherein transmitting in a first direction a data packet stored in a first local buffer if the first transit buffer is empty includes changing a transmission round associated with the transmitted data packet (¶ 0048, lines 1-5).

Regarding claim 13, Yamamoto teaches the computer-implemented method of claim 12, wherein changing a transmission round associated with the transmitted data packet includes changing a round bit in the transmitted data packet (¶ 0083 lines 12-22; ¶ 0084).

Regarding claim 14, Yamamoto teaches the computer-implemented method of claim 11, wherein data packets transmitted in the first direction have a common size (¶

0137, last 4 lines; ¶ 0139, lines 3-14 **teaches packets are set to be same packet lengths**).

Regarding claim 15, Yamamoto teaches the computer-implemented method of claim 11, wherein transmitting in a first direction a data packet stored in a first local buffer if the first transit buffer is empty includes transmitting one or more data packets stored in the first local buffer (¶ 0046; ¶ 0048, lines 1-5).

Regarding claim 16, Yamamoto teaches the computer-implemented method of claim 11, wherein transmitting in the first direction a data packet stored in the first local buffer if the first transmission condition is not satisfied includes changing a transmission round associated with the transmitted data packet (¶ 0083 lines 12-22; ¶ 0084).

Regarding claim 17, Yamamoto teaches he computer-implemented method of claim 11, wherein transmitting in the first direction a data packet stored in the first local buffer if the first transmission condition is not satisfied includes transmitting in the first direction a data packet stored in the first local buffer if the first local buffer contains one or more data packets (¶ 0083 lines 12-22; ¶ 0084).

Regarding claim 18, Yamamoto teaches the computer-implemented method of claim 11, wherein transmitting in the first direction one or more data packets stored in the first transit buffer if a first transmission condition is satisfied includes transmitting in the first direction one or more data packets stored in the first transit buffer if a previous data packet transmitted in the first direction was empty (¶ 0048, lines 1-5), or the previous data packet transmitted in first direction had been stored in the first local buffer (¶ 0048, lines 1-5), or a transmission round associated with the previous data packet

transmitted in first direction matches a transmission round of a first data packet stored in the first transit buffer (¶ 0083 lines 12-22; ¶ 0084 lines 3-19).

Regarding claim 19, Yamamoto teaches the computer-implemented method of claim 11, wherein the method comprises processing data on a node in a ring network (Figure 6; ¶ 0062, lines 8-13).

Regarding claim 20, Yamamoto teaches the computer-implemented method of claim 11, wherein the method further comprises: determining if a second transit buffer on the node is empty, the second transit buffer capable of holding one or more data packets destined for another node (¶ 0048);

if the second transit buffer is empty, transmitting in a second direction a data packet stored in a second local buffer, the second local buffer capable of holding one or more data packets originating from the node (¶ 0096; Figure 22);

if the second transit buffer is not empty, transmitting in the second direction one or more data packets stored in the second transit buffer if a second transmission condition is satisfied; and transmitting in the second direction a data packet stored in the second local buffer if the second transmission condition is not satisfied (¶ 0096; Figure 22).

Regarding claim 21, Yamamoto teaches the computer-implemented method of claim 20, wherein the second direction is opposite to the first direction (¶ 0096; Figure 22 **teaches an upstream transmission as a second direction operates by using the control of destination address**).

Regarding claim 22, Yamamoto teaches a computer-implemented method for processing data between nodes in a distributed network, the method comprising:

maintaining a set of local buffers and a set of transit buffers for each node in the distributed network, the set of local buffers for a given node being used for storing data originating at the given node, and the set of transit buffers for the given node being used for storing data received by the given node but destined for another node in the distributed network (¶ 0046; ¶ 0055, lines 1-9); and using the local buffers and the transit buffers to process data between the nodes in processing cycles, wherein each node is capable of receiving data from another node and storing this data in one of its transit buffers during one processing cycle, and wherein each node is capable of transmitting data from one of its local buffers and from one of its transit buffers to another node during one processing cycle (¶ 0054 lines 1-7; ¶ 0055, lines 1-9).

Regarding claim 23, Yamamoto teaches the computer-implemented method of claim 22, wherein each node is capable of receiving data from another node, storing this data in one of its transit buffers, and changing a transit buffer round associated with the transit buffer containing the stored data if a transmission round of the received data does not match a transmission round of previously received data (¶ 0055, lines 1-9).

Regarding claim 24, Yamamoto teaches the computer-implemented method of claim 22, wherein each node is capable of transmitting data from one of its local buffers and from one of its transit buffers to another node and changing a transmission round associated with the transmitted data (¶ 0083 lines 12-22; ¶ 0084).

Regarding claim 25, Yamamoto teaches the computer-implemented method of claim 22, wherein the method comprises processing data between nodes in a ring network (Figure 6; ¶ 0062, lines 8-13).

Regarding claim 26, Yamamoto teaches the computer-implemented method of claim 22, wherein: maintaining a set of local buffers and a set of transit buffers for each node in the distributed network includes maintaining at least two local buffers and at least two transit buffers for each node in the distributed network, such that each local buffer and each transit buffer is associated with a particular direction of data transmission (Figure 13).

Claim Rejections - 35 USC § 103

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto in view of Gollnick et al. (US Pat. 5,940,771).

Regarding claim 10, Yamamoto teaches the computer-implemented method of claim 1, but lacks processing the first data packet on the node includes processing the first data packet on the node using a segmentation and reassembly layer. However, in the same field of endeavor of transmission packets among nodes, Gollnick et al. teach processing the data packet on the node includes processing the data packet on the node using a segmentation and reassembly layer (col. 42, lines 35-44). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a segmentation and reassembly layer taught by Gollnick et al. into the transmission nodes taught by Yamamoto to efficiently translate packets into original data.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ramfelt et al. US Pat. 5,982,747. Nov. 9, 1999. Ramfelt et al. disclose Method for managing failures on dynamic synchronous transfer mode dual ring topologies.

Inquiries

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TuanKhanh Phan whose telephone number is 571-270-3047. The examiner can normally be reached on Mon to Fri, 8:00am to 4:30pm EST, 1st Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenton B. Burgess can be reached on 571-272-3949. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TKP

GLENTON B. BURGESS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100